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THE SKETCH-MAP AS AN AID IN THE TEACHING OF HISTORICAL GEOGRAPHY¹*

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The purpose of this paper is to discuss the place of the sketch-map in the teaching of historical geography. The discussion will deal with the following matters: (1) the problem which the teaching of historical geography presents in general; (2) the relative success or lack of success with which this problem is being solved; (3) the relative value of the sketch-map method as compared with other methods in use; (4) difficulties which stand in the way of the wider use of the sketch-map method; (5) means of overcoming these difficulties; (6) a sketch-map of Europe by way of illustration.

In trying to make historical geography mean something to students, doubtless the heart of the problem is to get them to think in terms of physical features. There is no one, I think, who would seriously question this statement. Historical geography is concerned with the changing areas of states, and is most in evidence during an early period of political consolidation and a later period of territorial expansion. The particular task of historical geography is to know the names of the areas involved in both these

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processes and to know what geographical area is designated by a given historical name. In the case of our own country, for example, the names of Virginia and Massachusetts are connected intimately with the period of political consolidation of our country; those of the Louisiana Purchase and California, with the period of our westward expansion. It is the task of historical geography to make clear the geographical scope of such names.

But how is one to make clear either to one's self or to others the geographical scope of names of this sort without knowing some of the physical characteristics involved, without having something definite with which to associate the names? Obviously, must one not have something to which to tie? A very simple means of testing this matter is at hand, and is offered by the character of our own mental pictures of location. What, for example, is the mental picture called up by the name "New York City," or by that of "Chicago"? In the case of New York, some consciousness that it is on the coast at the mouth of the Hudson immediately comes to us, and, in the case of Chicago, we see Lake Michigan with the city planted at its edge near the southwest corner. Or, suppose the states in which the cities are placed be taken, does not the mental picture involve the Hudson again and the Great Lakes in the one case, and, in the other, Lake Michigan and the Mississippi? Conversely, is it not the lack of knowledge of the physical characteristics which makes the mental pictures of other places and political divisions vague? What, for example, is the character of the mental picture when we speak of Burgundy, Bedfordshire, or Württemberg? Are they tied definitely to anything? Do they not float loosely around "somewhere in France" and the other countries? Can we not say that the vividness and the accuracy of our mental pictures vary according to our knowledge of the physical features of the area? It is perfectly clear, it seems to me, that our minds instinctively reach out for definite and specific features with which to associate the location of areas, boundaries, and places.

If, then, this is the stuff out of which mental pictures of location are made, must not our aim in teaching historical geography be (1) to train the pupil to study the physical features of the areas with which the historical narrative deals, and (2) to train him to

associate the historical areas about which he is studying with these physical features? In other words, must not our aim be to train him, when dealing with political divisions and places, *to think in terms of physical features?* But this is no easy matter, and *how* to get the pupil to do this is a problem—the very problem that the teaching of historical geography presents to us.

Now, how is this problem being attacked? Upon what methods do teachers commonly rely? With what success are these efforts attended? With these questions of method and efficiency our discussion must next concern itself.

There are three methods now commonly in use in the teaching of historical geography which claim our attention. In one of these the teachers supply themselves with wall-maps and historical charts, good, bad, and indifferent; they rely on these and on the maps in the textbooks to help convey to the pupil some notion of the physical areas that correspond to such names as Nevada, Ontario, Wessex, Lombardy, and other similar names of historical divisions. In this case the pupil is supposed to acquire the information by turning from the text, after he has read there about some territorial change to the map in the book—in case there is a map of this territory—and get a notion of the area signified by the name or names about which he has been reading. The knowledge which may or may not have been gained in this way is then further reinforced, when the matter is being touched on in class, by the act of the teacher in directing the attention of the pupils to the wall-map or chart. This is done either by a glance of the eye or by pointing with the finger or pointer. Some enthusiasts, indeed, even venture so far as to trace out the boundary line of the area in question. This method does not involve any test of the pupil's knowledge. It takes for granted that he does examine the map after reading the text; it is thus characterized, we may say, by a large measure of pious hope.

Other teachers, making less heavy drafts upon the treasury of pious hope, use all the measures to which reference has just been made and, in addition, make some effort to see that the pupil really does look at the map for himself. The means they resort to is that of the *outline-map*. In this outline-map method, the

second of the methods to be described, the pupil is required to fill in on an outline-map the area in question. He is asked to figure out from maps at his disposal, either those in his textbook or those in some historical atlas, just where East Anglia, Champagne, or Switzerland is supposed to be, and then to trace or fill in a corresponding area on his map. Furthermore, I believe, he is generally supposed to label some of the rivers and mountains that may be found on his outline-map with what seem to be appropriate names. These maps are then handed in, and the teacher is thus assured that at least the pupil has spent some effort on the matter. With many teachers the effort stops here, and the pupil is not required to be able at a written test or examination to reproduce this material from memory. By some teachers, however, this further test is applied.

A third method goes yet farther in the effort to make sure that the pupil really does acquire some of the knowledge that he is supposed to have gained. In this method, the sketch-map method, the pupil is himself required to make his own map, drawing in the coast line, rivers, and mountains; on this he must put in the boundary lines or fill in with color the area in question. Here, too, the users of this method may be divided into two classes, according as they do or do not require the pupil to be ready to reproduce his work from memory.

Under such headings, namely, the method of "pious hope," of the outline-map, and of the sketch-map, may be roughly gathered the commoner methods now in use for the teaching of historical geography.

The question that next presents itself relates to their efficiency. How well do they accomplish their aim? To what extent do they lead the pupils to think in terms of physical features?

When we ask ourselves how far the methods sketched above train the pupils to associate the given areas with physical features, how far these methods lead to the acquisition of any permanent knowledge, we shall have to admit, I think, that, on the whole, the results are unsatisfactory. The pupil, particularly in the case of European history, has his real knowledge increased very little. When Burgundy and Brandenburg can be transposed at the pupil's

pleasure, when it is insisted that the straits of Gibraltar separate Dover and Calais, when Canterbury is placed where Cairo should be, and Jerusalem is located on the Italian peninsula, it would seem evident that there is still much to be desired in the efficiency of our methods of teaching historical geography. No doubt there are teachers here and there, both in the high schools and in private schools, who are getting good results, but the evidence leads me to think that they form an almost invisible minority. Nor would their number be much increased if one included in the survey the great throng of college and university instructors who deal with undergraduates. In this matter the charge of unsatisfactory results can be brought against the history teacher both in the university and in the high school. Why should this be so? Why should the results of efforts in this subject be so uniformly far from satisfactory? It will not be without benefit to consider this matter for a moment.

The reasons for the unsatisfactory character of the results obtained in the teaching of historical geography seem to me to be attributable chiefly to the deficiencies of the maps ordinarily in use, on the one hand, and, on the other, to defective methods and to inefficient use of methods good enough in themselves.

The most striking deficiency in the maps ordinarily supplied to students is their small *size*. Both in textbook and in historical atlas the scale of the average map is so small that it is difficult, even with the best effort, to get clear ideas of the matter being studied. A less obvious but, if anything, more important deficiency is to be noted in the principle upon which historical maps are, for the most part, constructed. If the association between boundary line and physical feature is to be the guiding principle in the teaching of historical geography, it would seem necessarily to follow that historical maps and atlases should be so constructed as to bring out as clearly as possible the relationship existing between boundary and physical feature. But to this notion the majority of historical maps at present in use do great violence. The constructors of these maps seem to have felt that boundary line rather than physical feature is the important matter; in consequence they consistently emphasize boundary lines at the cost of physical features. The

heavy dotted line, black or colored, usurps the place of the Alps or the Vosges, and the Seine or the Rhine is reduced to utter insignificance or eliminated completely. Above all are they given to an overuse of color. As the combined result of these practices the features which give meaning to an area are entirely or in large part either obliterated, slighted, or utterly neglected. In such maps, as far as the pupil can see, there is no particular reason why the blue which denotes Normandy should stop and the pink which denotes Maine should begin or why the brown for Bavaria should give place to the red that denotes Austria. As a result, when he has made a picture-puzzle of France, or Germany, or England, or it may be Africa as now divided, for most of his boundary lines he has nothing but another boundary line to guide him. Thus, while he may have increased his knowledge of relations somewhat, his effort in great part has been wasted, for he has gained no lasting knowledge of physical features, without which knowledge he is in no position to grasp the mutual relations of the political divisions and boundary lines he is striving to learn. While these deficiencies in the maps from which pupils must get the desired information undoubtedly constitute a hindrance to the history teacher in his effort to teach the geographical aspects of his subject, the entire blame for poor results cannot be placed on the character of the maps at his disposal. In some cases the character of the method is at fault.

In the first method described, for example, not only is there no satisfactory test of the student's knowledge—a grave defect in any method—but it is deficient in another regard. This is due to the assumption, made by the teacher when pointing to a wall-map, that the pupils can see the map as well as himself. That this is an assumption utterly unjustified by the facts can be easily ascertained by anyone who chooses to place himself in any of the seats back of the first two or three rows where the pupils sit. In such a position one very soon discovers that the average wall-map or even chart is of very slight value as far as the pupil is concerned. The reason is that for the majority of pupils in a room the instructive features on a wall-map become blurred. The teacher, close to the map, knowing exactly the thing upon which he wishes attention to be focused, and seeing clearly enough himself the various details,

is prone to forget that the pupil is not in the same situation as himself. Furthermore, wall-maps suffer from the same defect as the maps in textbooks and atlases, though not to the same degree, in that they tend to an overuse of color to show the extent of political areas and emphasize boundary lines to the slighting of physical features. Undoubtedly wall-maps have their uses, but, unaided, they cannot be relied on to give the pupil the knowledge he ought to have. For efficient work the pupil must himself have in his hand a good map which he can study closely and at leisure.

With the outline-map method the case is different. This, if rightly employed, should produce some solid results. It remedies some of the worst defects that inhere in the first method. It takes pains to make sure that the pupil gets some of the knowledge that he is supposed to get, and makes him construct a great many of the details for himself. It is, however, robbed of its full efficiency in many cases by failure to require the pupil to label or fill in the significant physical features, and by failure to insist that the pupil shall be able to reproduce his work from memory. Naturally, too, the pupil follows the vicious model of the atlas and textbook, and splashes on color liberally, feeling, doubtless, that there is some vital connection between pink and Provence.

In the case, likewise, of the sketch-map method, the failure to secure good results is due, not to any defect in the method itself, but rather to ineffective applications of the method. That the method has been for the most part ineffectively applied is due, I think, to the lack of any well-defined system for its use.

These, then, are the methods commonly in use in the teaching of historical geography. We have seen that they are producing far from satisfactory results, and we have discussed some of the reasons for this state of things. Now, it seems to be a great pity that, of the various methods at present in use, the one which in its nature is best calculated to produce the most satisfactory results should be the least widely in use. I therefore wish to spend the rest of the time allotted me in discussing the value of the sketch-map method, examining the difficulties in the way of its wider use, and suggesting ways of meeting these difficulties, to the end that the

sketch-map method may be more widely used in our effort to teach historical geography.

In the first place, then, is the sketch-map method really superior to that of the outline-map method? Does the sketch-map method more than the outline-map method lead the pupil to think in terms of physical features—to study, that is, the relations of physical features to each other and of political boundaries to them? The

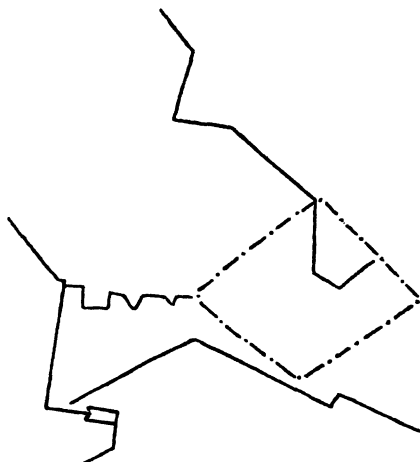


FIG. 1

particular value of the sketch-map method lies for one thing, it seems to me, in the *closer observation* which the student is compelled to give to the matter, and, for another, in the *aid it gives in visualizing* the relations of physical features to each other and of the boundaries' relation to them. For example, suppose the district in question to be *Bohemia*. What is the process through which the pupil goes? He takes a historical

atlas and turns to the map which shows the location of Bohemia. He finds this location indicated by dotted lines forming a diamond-shaped figure (Fig. 1). If his map shows the physical features plainly, or if he provides himself with one that does, he will see that his diamond-shaped figure is nothing in the world but the diamond-shaped plateau drained by the headwaters of the Elbe River system and bound in by four well-marked mountain ranges. In fact, if his maps are good, he soon sees that the boundary line follows very closely the ridges of these ranges, and that, for most practical purposes, it is to be associated with these mountains (Fig. 2). Moreover, when this association is once fairly grasped, there results a mental picture of the relationship. Now, nothing will so well help the pupil to fasten these relationships in mind as the attempt to reproduce this mental picture, at first with the maps before him, and then without them. With each attempt

there will be an increase in the accuracy and vividness of the mental picture and a corresponding improvement in the grasp of the relationships. The most conclusive proof that a pupil has a grasp of these facts and knows what he is talking about is to be found, it must be admitted, in his ability to make from memory a sketch-map of the area in question. Such an ability represents a knowledge of a higher order and more permanent character than the ability to fill in from memory the details of name and boundary line on a map already made for him. The difference in grasp is something like that between the ability required to read a language and that required to speak it. From this point of view, as between the relative worth of the outline-map and the sketch-map, there can be no question: the superiority of the sketch-map method is incontestable.

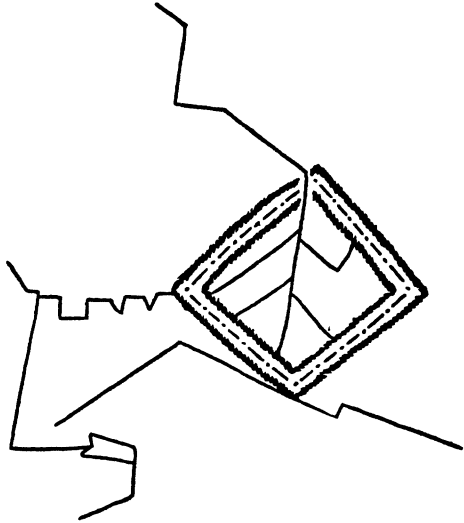


FIG. 2

It is the one device yet in use which really forces the pupil to study the matter and get a working grasp of it. It is the instinctive recognition of this fact that has always led a certain number of teachers to experiment with this method. If they have not succeeded better or been able to obtain wider recognition for the method, this fact must be set down, not to the fault of the method itself, but to the difficulties in the way of its successful application. What are these difficulties, and can they be overcome with a not too great expenditure of time and effort?

Of the various hindrances that hitherto have stood in the way of a wider use of this method none is to be compared in importance to the *lack of training in drawing* on the part both of the teacher and of the pupil. The teacher himself does not know how to draw a map, much less can he tell the pupil how to do so. Teachers and

pupils shrink from an attempt at freehand drawing. Not being used to this sort of thing, being utterly untrained, they are completely at sea, and feel that they are attempting an impossibility. It is not perhaps especially difficult to copy the coast line of Europe; but it is felt to be quite a different matter to throw aside one's sketch, shut the book, and then remake the map from memory. This requires keen analysis of the separate parts of the map, close

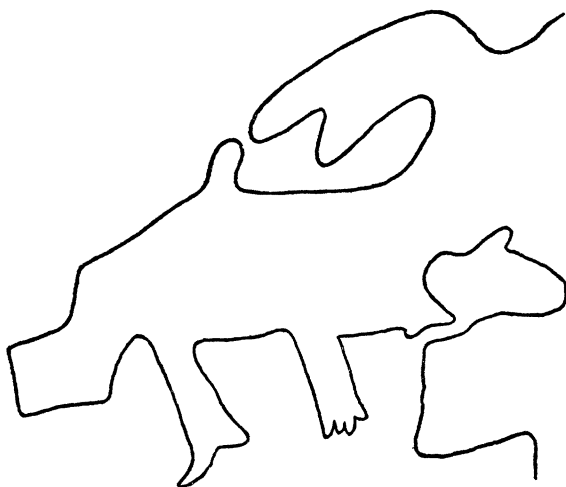


FIG. 3

observation, and a great deal of drill to secure a satisfactory degree of mastery of such a map as that of Europe or similar ones. When one is untrained, the attainment of such mastery seems almost hopeless and certainly not worth the effort. In this lack of training is to be found beyond doubt, I think, the chief hindrance to a wider use of the sketch-

map. By what means is this difficulty to be overcome?

Doubtless the obvious means of overcoming the lack of training in drawing sketch-maps is to supply the lack. But what is the nature of the training that will enable one to draw the necessary maps with a fair degree of ease and accuracy? How great is the effort necessary to acquire this training, and is the effort worth the while? Our attention, consequently, must next be directed to a consideration of the way in which a sketch-map should be constructed, to a discussion of the principles by which one should be guided—in short, to the *art of the sketch-map*.

If one, without any previous training, should essay to draw from memory an outline of the continent of Europe, the result would probably look something like the accompanying sketch (Fig. 3). Now, while all such first attempts are laughable because,

though suggesting the original, they are yet so grotesquely different, nevertheless they represent one's actual working knowledge of the subject and can be made to afford many useful hints and suggestions as to how one's work may be bettered. In particular, an examination of the sketch (Fig. 3) will show that unconsciously the maker has been guided by certain *principles* that are sound and that will enable him, when once they are consciously grasped, greatly to improve his work.

What, then, are the principles by which an untrained person is, when making a sketch, unconsciously guided? They are three, namely, *analogy*, *proportion*, and *relationship*. Let us first consider the matter of analogy. By this is meant the tendency to see resemblances between the things one is trying to draw and the objects with which one is familiar. One seems to feel that, if, somehow, one can catch a resemblance in this way, the task is rendered easier. This feeling is undoubtedly correct, for the mental pictures of such familiar objects, for example, as a dog, a hammer, or a square, are so clear and well defined that the moment the shape of the new object can be associated with one of these familiar objects, its outlines are no longer strange and difficult to grasp, but, on the contrary, familiar and easy to hold in mind. The vivid picture of the familiar object acts as a guide in our efforts to draw the thing before us. Ample illustration of these points can be drawn from the sketch given herewith (Fig. 3). In this case the well-marked features, the peninsulas in particular, seem to have suggested analogies, and thus stamped themselves on the mind. Scandinavia, for example, has caught the fancy with its jaws and necklike projection from the main body of the continent. Peglike Denmark, and Spain, with its resemblance to a square, give our minds a hold on them, while Italy's resemblance to a boot makes that peninsula the easiest of all to remember and draw. Doubtless, also, Europe's rough resemblance to a triangle has not been without its effect. It is in ways like these that the mind seizes upon analogies and makes use of them.

But while the mind thus makes use of analogies, it is at the same time guided by a sense of *proportion*. By a sense of proportion is meant the feeling that leads us to draw things of the same relative

size. For example, in the sketch-map of Europe given on p. 506 (Fig. 3), this feeling has led to the drawing of Spain with some reference to the size which had already been given Denmark, or the part of Europe that had been previously drawn. Had Spain been drawn three or four times larger (Fig. 4) than it now appears,

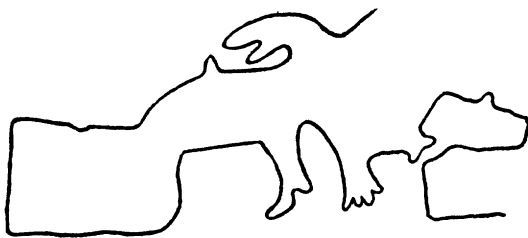


FIG. 4

anybody would have said at once that Spain was very much too large in proportion to the rest of Europe. One tends, thus, to control the size of objects by that of those already constructed; or, to put it another way, one tends to draw portions of an object *in terms* of the parts that have already been drawn.

Again, one is guided not only by a sense of analogy and proportion, but also by the perception of *relationship*. By this term is meant the perception that one part of the object one is drawing bears a certain relationship in position to some other part of the object. Such a relationship, when once noticed, helps one to get the different parts of an object rightly placed in relationship to each other. For example, a very simple relationship is that between Italy and Denmark.

First attempts may very easily overlook the fact of this relationship and place the two peninsulas in some such relative positions as those shown in the previous sketches where Italy is placed considerably to the right or left of Denmark, instead of being, as it should be, directly under it (Fig. 5). The Danish peninsula itself, too, can in relation to the Scandinavian peninsula be more exactly placed: rather than being situated merely near the end of the peninsula it is seen to

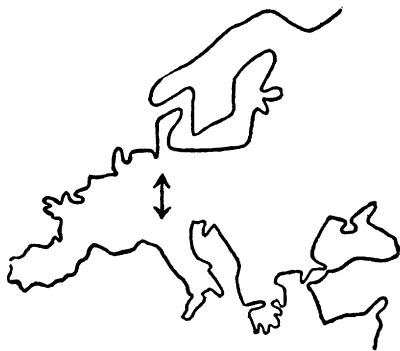


FIG. 5

reach up *into* the great jaws of this projection. Such relationships, once noticed, have a way of sticking in the mind. Furthermore, the value of this habit once having been brought home, one is constantly on the lookout to add to the number of relationships already observed. The stock of knowledge thus obtained becomes one of the main resources in enabling one to gain control in drawing the map. This fact makes itself increasingly apparent when the attempt is made to draw the internal features of the map, more particularly the rivers and mountain ridges. But before experimenting with these there are two other matters connected with the principles of analogy and proportion that should be considered. These matters are (1) the *analysis into line*, and (2) the *use of a unit of measure*.

Among the analogies mentioned in one of the preceding paragraphs was that of the geometrical figure. An example of its use was pointed out in the case of Spain, whose shape suggests that

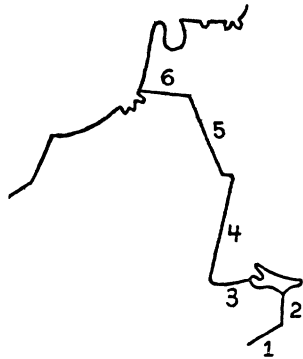


FIG. 6

of the square. But a square is made up of straight lines, and, as a matter of fact, it is this analogy of the line, straight or curved, that one's mind tends to use perhaps even more than the geometrical figure, which is, indeed, only a combination of such lines. This analysis into line is especially useful because it enables one to attain much greater exactness, particularly in the matter of proportion, since, when one thinks in terms of straight lines, it becomes possible to use a unit of measure. The advantages of this use of the straight line can well be shown in drawing a river like the Rhine. If one should attempt to get all the little quirks and curves of this river, the task would seem well-nigh hopeless. But if one attempts merely to observe the principal *sections* into which the river may be broken up, and, regarding these sections as straight lines, notes their direction, relative length, and position, the task becomes quite possible and surprisingly simple. As may be seen from the accompanying diagram (Fig. 6), the course of the Rhine, from source to

mouth, is comprised in six fairly well-marked sections. Of these, the first two are about of a length; the third, if Lake Constance be left out of account, is somewhat longer than either of these two; the fourth and fifth are something more than twice as long as the third, while the last section is about half the length of either section 4 or 5. Finally, if one notes that section 2 forms a very obtuse angle with section 1, that the base line of Lake Constance makes a similar angle with section 2 and that 3 makes a scarcely perceptible angle with the base line of Lake Constance, that 4 but just fails of making a right angle with 3, that 5 inclines away from the vertical in the opposite direction and at a somewhat greater angle than does 4, and, finally, that 6 forms a blunt angle with 5, it will be found that a little practice and a little testing of one's observation by memory will enable one to reproduce at will a draft of the Rhine that will answer for most purposes. Furthermore, when working at the matter in this way, one unconsciously uses one of the lines as a unit of measure by reference to which the relative lengths of the other lines are gauged. Thus, in the present case, if section 4 be used as the unit of measure, the other sections are either the same length, half as long, or, as in the case of section 3, between a quarter and a third as long, or about a third, as in case of section 2, or about a quarter, as in the case of section 1. It can be readily seen how, by the use of a suitable unit of measure, the proportions of one's map can be very much improved and the whole made much more effective and serviceable.

Such are the principles, or at least some of the principles, of which one, in drawing a sketch-map, makes, to a greater or less degree, instinctive use. And if, in place of instinctive use, one substitutes conscious and systematic use of *analogy*, *proportion*, *relationship*, *analysis into line*, and *a unit of measure*, the task of analyzing the map, seeing what to draw, knowing what to fix attention on, will be greatly simplified and the result much improved. And now it may be well to turn from theory to practice and apply these principles in making a sketch-map of the coast line of Europe and two or three of its principal rivers.

In this systematic attempt to draw the outline of the continent of Europe, its rough resemblance to a triangle, which one uncon-

sciously appreciates and of which one makes instinctive use, can be made of the greatest service. For, if a triangle be formed (Fig. 7) by connecting three points at the extremities of Europe, this triangle may be used as a framework to guide in drawing the coast line, and will enable one to secure more easily a uniform proportion. Thus, if the three points chosen be the "chin" of Spain, the base of the Caspian Sea at its middle point, and a point near the northern end of the boundary line between European and Asiatic Russia, the lines connecting them will form a triangle inclosing nearly the entire continent. The coast line of the main body of the continent will be found to run for the most part close to these lines, only the peninsulas, the easiest portions of the coast

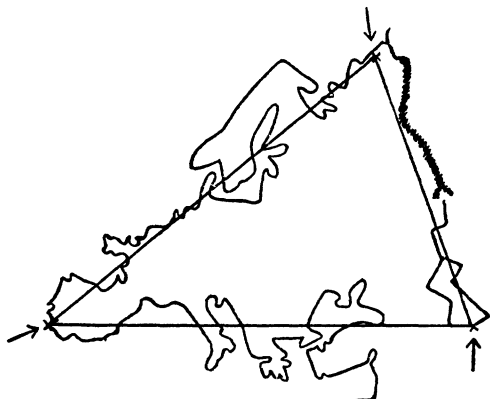


FIG. 7

line to draw, projecting much beyond them. But when one comes to construct this triangle preparatory to using it as a guide in drawing the European coast line, the question immediately raises itself as to the *relative length of the three sides*. This is an important question, for on its correct answer depends any effective use of the triangle as an aid in the drawing of the map. Fortunately, in this case, the relations of the three sides are very simple ones and easily held in mind. Without the aid of a ruler the eye would at once tell us that two of these lines are of about the same length; and if a ruler be used to get the exact measurements, these will be found to confirm the observation of the eye, for they show that the two sides are exactly equal. The relation of the third side to the other two is shown by the ruler also to be a simple one, for its length proves to be just two-thirds that of either of the others. In other words, we have to deal with an *isosceles triangle whose base is two-thirds the length of its sides*. Such a triangle can

be constructed with a fair degree of accuracy with no aid from a ruler, either by merely estimating with the eye the relative proportions of the three sides or by some such device as here shown (Fig. 8). In this case, if the line AB be drawn and divided into three equal parts, the section BD , which is equal to two-thirds

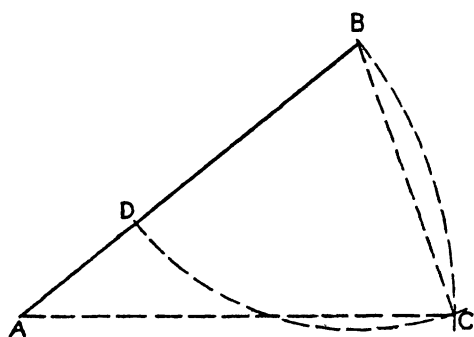


FIG. 8

of AB , may then be used in imagination as a radius, swung from B as a center, to guide in making the dotted curve DC . In the same way the line AB itself, swung from A as a center, may be used as a radius to describe the dotted curve BC . The intersection of these two curves at C gives the third

extremity of the triangle. When this point has been connected by straight lines with A and B , there results the required isosceles triangle ABC , whose base BC is equal to two-thirds of the length of either of the sides.

Doubtless no triangle made in this way, with only these rough measuring devices to guide the eye, will prove to be absolutely exact in its proportions. Yet the results of such a method or similar ones prove to be accurate enough for all practical purposes, and the map of Europe, whose coast

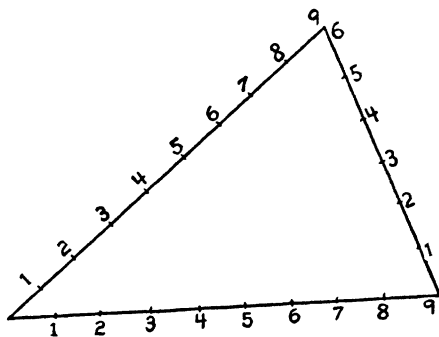


FIG. 9

line has been drawn in relation to the sides of such a triangle, will be far more accurate and satisfactory than one drawn with no such guide in mind.

But the triangle can be made to yield still further aid. If the sides be divided into thirds (Fig. 9), and these thirds themselves

be likewise divided into thirds, a division of the side into nine units results; and if the base be divided into two equal parts, and these again into thirds, a division into six units of the same length as those into which the sides have been divided results, as in the figure *ABC*. By noting the relation in position between the various features of the coast line and the division points of the units

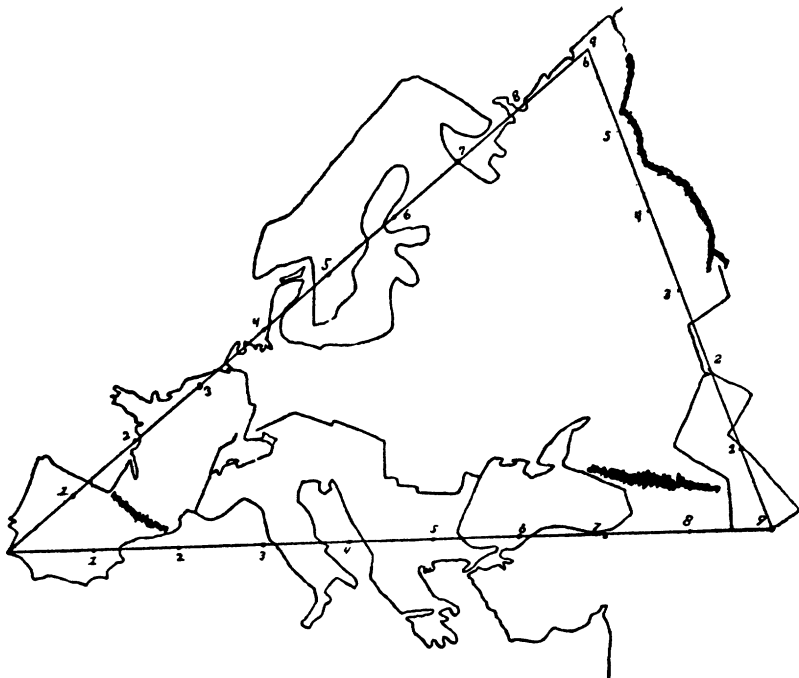


FIG. 10

the relative position and proportion of the different parts of the coast line can be attained with greater exactness. For, as may be seen in the accompanying drawing (Fig. 10), not only are the positions of Spain and the Caspian securely fixed, but also that of the White Sea, whose base passes through point 7, of the Scandinavian Peninsula, whose lower jaw incloses 5, of the Danish Peninsula, three-quarters above the line, whose western coast line just escapes 4, of the Italian Peninsula, half above and half below the line, which occupies the middle portion of the unit between

3 and 4. And what is true of these larger features is equally true of the many other smaller and less prominent ones: reference to the sides of the triangle and the units is of the greatest assistance in placing them. Furthermore, the unit which has been formed by dividing the triangle's side into ninths can be very conveniently used as a unit of measurement in drawing the various parts of the map. Thus the section of the Rhine labeled 4 in an earlier diagram (Fig. 6) is a half of this unit, as are also the first four sections of the Danube, as shown on the accompanying map (Fig. 10), and the section of the Rhone from the point at which it is joined by the Saone to its mouth, while the northern, western, and southern sides of Spain are approximately a whole unit in length. Perhaps enough has now been said to suggest the usefulness in actual practice of the principles of analogy, relationship, analysis into line, etc.

Such is the nature of the training required to enable one to draw with comparative ease a sketch-map that answers every practical purpose. As to the application requisite to acquire this training, I can speak from a large personal experience both with myself and with students. I am far from blinking the fact that there is a considerable amount of effort involved. Nevertheless, I am thoroughly convinced that its acquisition is within the reach of every teacher who is willing to give up a very moderate amount of time (say two weeks in vacation, three hours each morning) to a study and practice of the matter. I am also convinced that, if the teacher controls the method, it is entirely practicable to teach pupils to master and use the process constantly. Indeed, I might add, as a final word, my conviction that the use of the sketch-map method in some form is not only possible and practicable, but that its obvious merits will win for it a constantly increasing use in the hands of the history teachers of this country.